Canine Brucellosis Q & A for Dog Owners

What is canine brucellosis?
Canine brucellosis is an infectious disease caused by the *Brucella canis* bacteria (*B. canis*). Although other *Brucella* species of bacteria can infect dogs, such as *Brucella suis* (pigs) and *Brucella abortus* (cattle), *B. canis* is the most common *Brucella* species of bacteria found in dogs and will be the only bacteria discussed here.

Why is canine brucellosis important?
B. canis is a disease that can be transmitted to humans as well as other dogs and is a significant cause of reproductive failure, predominantly in kennels. It is hopeful that by educating owners and breeders we can increase awareness and possibly decrease the potential spread of the disease.

What are the signs of canine brucellosis?
In female dogs, brucellosis usually causes abortion between the 45th-59th day of pregnancy. Other common reproduction symptoms include failure to conceive in an otherwise healthy dog, infertile males with abnormal semen quality and testicles that decrease in size. Non-specific symptoms for both sexes include: lethargy (decrease in activity, depressed), loss of libido, premature aging, and generalized lymph node enlargement.

How do dogs get infected with canine brucellosis?
Canine brucellosis is mainly transmitted during breeding. Most common dog to dog transmission is by nose and mouth contact with vaginal discharge of an infected female while in heat, abortion, and whelping. It is also commonly transmitted through semen and can be spread by infected urine for several years in chronically infected male cases, even after castration (removal of testicles). Puppies can become infected from their mother during pregnancy by way of the placenta.

Can my dog be cured of brucellosis?
It is very difficult to cure an infected dog and treatment is not recommended for dogs in a breeding kennel or for dogs that cannot be isolated and given antibiotic therapy, as they may continue to be a source of infection for other dogs and humans. Treatment is expensive, as several weeks of antibiotic therapy are required and not guaranteed. Relapse is common, even after continual use of antibiotics. Spaying/neutering of the dog can reduce transmission risk, but this method has not been proven to decrease risk of infection to others as it does not remove the bacteria from the body. Treatment is especially difficult in male dogs as the prostate gland and testicle is chronically infected. The only proven method for eradication in kennels is to test all dogs and eliminate the confirmed positives.

How can I prevent canine brucellosis in my dog?
Brucellosis is easy to prevent in dogs. Before breeding your dog, both the male and female dog should be examined by your veterinarian and tested for the disease. The test involves a simple blood test. Breeding facilities should have all new additions tested for brucellosis before bringing them on to the premises. These dogs should also remain isolated until a second negative test is obtained 4-6 weeks later. Dogs should not be bred if they test positive for brucellosis.

If my dog has canine brucellosis, can I get sick too?
Yes, the bacteria *Brucella canis* can infect humans, although it is not common. People who come into contact with large numbers of bacteria are at highest risk, such as dog breeders. However, people who have a compromised immune system, such as children, pregnant women, or ill persons, are at higher risk as well.

How does Canine Brucellosis spread to humans from dogs?
The most common way humans are infected include inhaling particles of, or direct contact, with canine abortion products (fetus, birthing fluid, placenta) or infected vaginal discharge via mucous membranes (mouth, nose, or eyes) or abraded skin. Infection can also occur after ingestion, either by contaminated

hands or by allowing an infected dog to lick around the face and mouth area. Human infection associated with infected urine and feces is unknown, but thought to be a possibility.

The *Brucella canis* bacteria can live in areas with high humidity and low temperatures with no sunlight for long periods of time. Therefore, it can be transmitted by contact and/or inhalation of dust and dirt. It has also been shown to live in water, aborted fetuses, feces, equipment and clothing for several months.

What are the symptoms of canine brucellosis in humans?
Symptoms are often mild and nonspecific. The most common characteristics of human infection include a continued, intermittent, or irregular fever accompanied by headache, weakness, generalized aching and lymph node enlargement. In more severe infections, joints, bones, or heart valves may be affected. Individuals with any of these symptoms should seek medical attention.

How long after exposure would I become ill if I was infected?
Signs of illness can occur within one week to several months after exposure. On average, signs will begin within 3-4 weeks following infection.

How do I prevent myself or other dogs from getting canine brucellosis if my dog is infected?
There is no vaccine available for canine brucellosis at this time. The best preventative measures include yearly testing of all breeding dogs, test all dogs introduced for breeding, only breed non-infected dogs, clean and disinfect areas, line yard with pea rocks to prevent moist areas, use gloves when whelping, and refrain from placing infected male dogs in pet homes as they can shed the bacteria in urine for long periods of time. Protective measures, such as wearing latex or rubber gloves, should be taken to prevent contact with infected reproductive secretions, urine and tissues (such as the placenta and aborted fetuses). Face masks and eye protection should be worn to prevent any material from entering the mouth or eyes when disinfecting kennel areas and runs. Any infected animal should be placed in quarantine or other isolated facility until testing is complete.

How do I control or eliminate brucellosis after my kennel is affected?
Contaminated wet areas should be dried and disinfected with a 1% bleach solution. Isolation, testing, and euthanasia of confirmed infected dogs are the primary methods necessary to eliminate and prevent the spread of disease in a breeding facility. During the quarantine/isolation period, breeding dogs should be housed separately.

It is important to note that the majority of testing for canine brucellosis checks for the presence of antibodies in the blood. Most of these tests commonly produce false positive results and unfortunately dogs are euthanized based on those results. If a test presents with positive results, discuss with your vet other testing methods, such as a blood culture, to confirm a positive or negative result. Decisions based solely on one test alone can lead to an unnecessary euthanasia.

References

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